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(19) **United States**(12) **Patent Application Publication****Liu et al.**(10) **Pub. No.: US 2021/0408826 A1**(43) **Pub. Date: Dec. 30, 2021**(54) **THROUGH-DISPLAY WIRELESS CHARGING**(71) Applicant: **Apple Inc.**, Cupertino, CA (US)(72) Inventors: **Nan Liu**, Sunnyvale, CA (US);  
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**ABSTRACT**

A personal electronic device (e.g., a tablet computer) may be configured to wirelessly charge an accessory (e.g., a stylus) through a display face of the device. At least a portion of the display face may be transparent to facilitate display viewing. A wireless charging assembly disposed within the enclosure may include a core having one or more windings disposed thereon, which may be configured to generate a magnetic flux above the display face to couple to the accessory. The core may be a pot core, a modified pot core, or may have another shape, such as a PQ core. The one or more windings may be disposed on one or more posts of a pot core, or additionally or alternatively, may be disposed on another portion of the core. A metallic shield may be disposed about the wireless charging assembly, thereby surrounding multiple sides of the wireless charging assembly.

